

CLAIMS

I claim:

- 1 1. An amphibious vehicle, comprising:
 - 2 a hull having opposing first and second sides, a bow, and a
 - 3 stern;
 - 4 a plurality of hinges disposed along each of said first and
 - 5 second sides;
 - 6 first and second track drive assemblies, each of said track
 - 7 drive assemblies having longitudinal inboard and outboard top
 - 8 edges, the track drive assemblies being attached to the first
 - 9 and second sides of said hull by said hinges, wherein each of
 - 10 the track drive assemblies is rotatable through an arc of
 - 11 rotation about a longitudinal axis generally parallel to said
 - 12 longitudinal inboard top edge between a downward position and an
 - 13 upright position; and
 - 14 first and second lift mechanisms disposed between said hull
 - 15 and said first and second track drive assemblies, respectively.
- 1 2. The amphibious vehicle according to claim 1, wherein said
- 2 arc of rotation is 180°.

1 3. The amphibious vehicle according to claim 1, wherein said
2 plurality of hinges comprises a plurality of offset hinges, each
3 of the track drive assemblies being rotatable about a
4 longitudinal axis generally parallel to said longitudinal
5 inboard top edge and between said longitudinal inboard top edge
6 and said longitudinal outboard top edge.

1 4. The amphibious vehicle according to claim 1, further
2 comprising a support frame disposed on said hull and extending
3 above said hull, said first and second lift mechanisms being
4 disposed between said support frame and said first and second
5 track drive assemblies, respectively.

1 5. The amphibious vehicle according to claim 1, wherein each
2 of said lift mechanisms comprises a lifting member having a first
3 end and a second end, the first end being supported above said
4 hull and the second end being connected to said track drive
5 assembly.

1 6. The amphibious vehicle according to claim 5, wherein said
2 lifting member is a hydraulic ram.

1 7. The amphibious vehicle according to claim 5, wherein each
2 of said lift mechanisms further comprises a pulling member having

3 a first end and a second end, the first end being supported above
4 said hull and below said first end of said lifting member, and the
5 second end being connected to said lifting member.

1 8. The amphibious vehicle according to claim 7, wherein said
2 pulling member is a hydraulic ram.

1 8. The amphibious vehicle according to claim 1, wherein
2 each of said track drive assemblies further comprises:

3 a frame having an inboard and an outboard support member,
4 each of the support members having an inner surface and an
5 outer surface, the frame having a first end and a second end;

6 a hydraulically driven drum supported between the inboard
7 and outboard support members at said first end of said frame;

8 an idler supported by the second end of said frame;

9 a plurality of road wheels supported by said frame, the
10 road wheels being disposed in line between the hydraulically
11 driven drum and the idler; and

12 an endless belt track member entrained about said
13 hydraulically driven drum, said idler, and said wheels.

1 10. The amphibious vehicle according to claim 9, wherein
2 each said hydraulically driven drum comprises:

3 a motor support disposed on the inner surface of said
4 inboard support member;

5 a hydraulic motor supported by said motor support, the
6 hydraulic motor having a motor shaft;

7 a bearing disposed on the inner surface of said outboard
8 support member;

9 a cylindrical drum; and

10 a hub attached to said cylindrical drum, the hub having a
11 hub shaft rotatably supported by said bearing, the motor shaft
12 engaging said hub;

13 whereby said cylindrical drum rotates when the motor shaft
14 rotates.

1 11. The amphibious vehicle according to claim 9, further
2 comprising:

3 a marine outdrive disposed on said stern of said hull;

4 an internal combustion engine disposed within said hull,
5 the internal combustion engine being coupled to said marine
6 outdrive; and

7 a plurality of hydraulic pumps, the hydraulic pumps being
8 coupled to said internal combustion engine, at least one of the
9 hydraulic pumps being in communication with said hydraulic
10 motors, and at least one of said hydraulic pumps being in
11 communication with said first and second lift mechanisms.

1 12. A drive track assembly, comprising:
2 a frame having an inboard and an outboard support member,
3 each of the support members having an inner surface and an
4 outer surface, the frame having a first end and a second end;
5 a hydraulically driven drum supported between the inboard
6 and outboard support members at said first end of said frame;
7 an idler supported by the second end of said frame;
8 a plurality of road wheels supported by said frame, the
9 road wheels being disposed in line between the hydraulically
10 driven drum and the idler; and
11 an endless belt track member entrained about said
12 hydraulically driven drum, said idler, and said wheels.

1 13. The drive track assembly according to claim 12,
2 wherein each said hydraulically driven drum comprises:

3 a motor support disposed on the inner surface of said
4 inboard support member;

5 a hydraulic motor supported by said motor support, the
6 hydraulic motor having a motor shaft;

7 a bearing disposed on the inner surface of said outboard
8 support member;

9 a cylindrical drum; and

10 a hub attached to said cylindrical drum, the hub having a
11 hub shaft rotatably supported by said bearing, the motor shaft
12 engaging said hub;

13 whereby said cylindrical drum rotates when the motor shaft
14 rotates.